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MONTH	PAGES	MONTH	PAGES
January	1–86	July	489–582
February	87–168	August	583–668
March	169–250	September	669–766
April	251–324	October	767–876
May	325–402	November	877–962
June	403–488	December	963–1064

L = Letter to the Editor

AUTHOR AND TITLE INDEX

Aas-Wang, Tove The Effect of Soil on Resistance to Abrasion of a Wool Fabric (*Morris, Mitchell*) . . . 424

Andrews, Charles M. Cellulose Swelling Measured by Propanol-2 Retention (*Oberg*) . . . 330

Andrews, Frederick R. Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part I:* Fiber Changes as Measured by Alkali Centrifuge Test (*Howald, Grant*) . . . 51

Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part II:* Equilibrium Moisture and Density (*Howald, Grant*) 609

Andrews, M. W. Induction Period of Shrinkproofed Fabrics (*Denby*)—L . . . 959

Wool Shrinkproofing Studies. *Part III:* Fiber Modification in Neutral Potassium Permanganate–Salt Treatments (*Inglis, Rothery, Williams*) . . . 705

Armstrong, Arthur A., Jr. A Vapor-Phase Technique for Radiation-Induced Grafting of Vinyl Monomers to Fibers (*Rutherford*) . . . 264

Arthur, Jett C., Jr. The Effects of Gamma Radiation on Cotton. *Part V:* Post-Irradiation Reactions (*Blouin*) . . . 727

Preparation of Methyl-C^{14}-Cellulose from Cotton Cellulose (*Mares*)—L . . . 661

Thermal Stress Behavior of Radiation-Induced Graft Polymers of Cotton (*Markezich, McSherry*) . . . 896

Audivert, R. The Effect of Drafting Speed, in Terms of Spindle Speed, on the Properties of Cotton Yarns (*Vidiella*)—L . . . 319

Backer, S. Relationships between the Structural Geometry of a Fabric and its Physical Properties. *Part VII:* Mechanics of Nonwovens: Orthotropic Behavior (*Petterson*) . . . 809

Baird, K. Changes of Curvature with Regain of Set Wool and Hair Fibers—L . . . 866

Dimensional Stability of Woven Wool Fabrics: Hygral Expansion 973

Balasubramaniam, E. Creep of Wool Fibers. *Part II:* Molecular Mechanical Constants for Creep in the Yield Region (*Whiteley*) . . . 436

Balasubramanian, N. Contribution to the Study of the *B–L* Curve of Cotton Yarns . . . 697

Bandyopadhyay, S. B. Dye-Sampling of Filaments in Jute Sliver and Assessment of Average Filament Length and Fineness—L 163

The Optimum Twist Factor for Jute Yarns of Various Sizes and Fiber Qualities, and Tex–Tenacity Relationships at Different Twist Factors . . . 9

Barella, A. Cohesion Phenomena in Cotton Rovings and Yarns. *Part II:* Influence of Twist on Yarn Cohesion (*Sust*) . . . 75

Effect of Twist on Continuous Filament Rayon Yarns—L . . . 579

The Measurement of Card Web Transparency and its Unevenness (*Pujal, Viaplana*) . . . 411

Basu, S. N. Comparative Deterioration of Jute and Cotton Canvases due to Micro-Organisms and Weathering (*Bhattacharyya*)—L . . . 868

Bayley, C. H. The Effect of Noncellulosic Material on the Actinic Degradation of Cotton Fabric. *Part I:* Some Copper-Containing Fungicides (*Rose, Clifford, Cooney*) . . . 849

Photochemical Degradation of Cotton Cellulose (*Gingras, Cooney, Jackson*) . . . 1000

Bender, Malcolm E. The Extension of Unoriented Nylon 66 Filaments. *Part II:* Phenomenological Relationships (*Williams*) 1023

Benedict, Harris M. Growth Rings in Cotton (*Berriman*)—L 1026

Benerito, Ruth R. The Treatment of Cotton with Ammonia-Epichlorohydrin Reaction Products (*McKelvey, Berni, Burgis*) 273

Berch, Julian Wet Soiling of Cotton. *Part I:* The Effect of Finishes on Soiling (*Peper*) . . . 137

Berni, Ralph J. The Treatment of Cotton with Ammonia-Epichlorohydrin Reaction Products (*McKelvey, Benerito, Burgis*) . . . 273

Berriman, Lester P. Growth Rings in Cotton (*Benedict*)—L 1026

Properties of Undried Cotton—L . . . 1027

A Study of the Effect of Cotton Fiber Structure on Luster (*Holbolt*) . . . 205

Betrabet, S. M. Structural Properties of Cotton Fibers. *Part II:* Birefringence and Structural Reversals in Relation to Mechanical Properties (*Pillay, Iyengar*) . . . 720

Bhaduri, S. N. Effect of Fiber Configuration in Feed on Comber Waste [Reply to V. B. Merchant] (*Wakanar*)—L . . . 240

Bhattacharyya, J. P. Comparative Deterioration of Jute and Cotton Canvases due to Micro-Organisms and Weathering (*Basu*)—L . . . 868

Bhogale, G. D. Some Rheological Properties of Indian Carpet Wools (*Whiteley*)—L . . . 161

Blankenburg, G. Comment on "Dylan Cube Washing Apparatus" by Ludwig R. Gan (*Zahn*)—L . . . 873

Bloch, M. G. Denier Distribution of Textile Fibers Obtained with an Electrical Sensing Zone Particle Analyzer (Coulter Counter) (*Gusack*) . . . 224

Blouin, Florine A. The Effects of Gamma Radiaton on Cotton. *Part V:* Post-Irradiation Reactions (*Arthur*) . . . 727

Bradbury, J. H. An Investigation by Light Microscopy of the Swelling of Wool Fibers (*Chapman*)—L . . . 666

Observations by Light and Electron Microscopy on Wool Cuticle Fractions Obtained by Ultrasonics (*Rogers, Filshie*) . . . 251

The Theory of Shrinkproofing of Wool. *Part IV:* Electron and Light Microscopy of Polyglycine on the Fibers (*Rogers*) 452

The Theory of Shrinkproofing of Wool. *Part V:* Electron and Light Microscopy of Wool Fibers after Chemical Treatments (*Rogers, Filshie*) . . . 617

The Theory of Shrinkproofing of Wool. *Part VI:* Identification by Light Microscopy of Scale Masking and Spot Welding of Fibers by Polymer Deposits . . . 824

Burgis, Beverly G. The Treatment of Cotton with Ammonia-Epichlorohydrin Reaction Products (*McKelvey, Benerito, Berni*) . . . 273

Caldwell, J. B. Reactive Dyes Related to the Remazol Class (*Milligan*) . . . 481
Castillon, Audrey V. Investigation of the Minimum Length of Cotton Fiber Effective in Single Yarn Tenacity (*Tallant, Fiori, Little*) . . . 1005
Chakravarty, A. C. Crystallinity in Jute Fiber at Different Stages of Growth of the Plant—**L** . . . 662
Chapman, C. V. An Investigation by Light Microscopy of the Swelling of Wool Fibers (*Bradbury*)—**L** . . . 666
Chicurel, R. Load-Deflection Analysis of Fibers with Three-Dimensional Crimp (*Suppiger*) . . . 767
Chipalkatti, V. B. Studies in Cross-Linking Reactions of Cellulose. *Part I:* 1:3-Dichloro-2-Propanol and Its Acetyl Propionyl and Butyryl Esters (*Desai, Sattur, Varghese, Patel*) . . . 282
Chytiris, Tel The Micronaire Test—**L** . . . 81
Clark, S. K. Internal Characteristics of Orthotropic Laminates . . . 935
The Plane Elastic Characteristics of Cord–Rubber Laminates . . . 295
Clarke, J. R. Determination of Isophthalic Acid in the Presence of Terephthalic Acid in Polyester Fibers (*Rashbrook*)—**L** . . . 167
Clifford, J. B. The Effect of Noncellulosic Material on the Actinic Degradation of Cotton Fabric. *Part I:* Some Copper-Containing Fungicides (*Bayley, Rose, Cooney*) . . . 849
Conrad, C. M. Changes in Certain Structural and Mechanical Properties of Cotton Cellulose with Progressive Acetylation (*Harbrink, Murphy*) . . . 784
Cooney, J. D. The Effect of Noncellulosic Material on the Actinic Degradation of Cotton Fabric. *Part I:* Some Copper-Containing Fungicides (*Bayley, Rose, Clifford*) . . . 849
Photochemical Degradation of Cotton Cellulose (*Gingras, Jackson, Bayley*) . . . 1000
Cooper, Albert S., Jr. Cotton Stretch Fabrics by Slack Mercerization. *Part I:* The Effects of Yarn and Fabric Construction (*Sloan, Murphy, Hoffman, Moore*) . . . 191
Cooper, D. N. E. A Bias Extension Test—**L** . . . 315
Cooper, W. P. Effects of Preconditioning of Various Fibers [Reply to F. Millard] (*Scroggie*)—**L** . . . 323

Dansizer, C. J. The Forces and Kinetics of Supercontraction of Keratin Fibers in 9 *M* LiCl (*Rebenfeld, Weigmann*) . . . 779
Mechanical Properties of Set Keratin Fibers (*Rebenfeld*) . . . 458
Daruwalla, E. H. Heats of Dyeing of Direct Cotton Dyes on Cellulose: A New Thermodynamic Approach to the Determination of Activity of Direct Dyes in Cellulose (*D'Silva*) . . . 40
Datye, K. V. Studies in the Reaction of Formaldehyde with Unmodified, Modified, and Dyed Celluloses. *Part III:* The Reaction of Formaldehyde with Oxycelluloses (*Nabar*) . . . 500
Dave, R. H. Quantitative Estimation of Binary Mixture of Sisal and Manila Fibers by Staining Technique (*Mehta*)—**L** . . . 320
David, H. G. Rates of Regain Change of Cloth with Relative Humidity—**L** . . . 83
A Simple Method of Measuring the Thermal Transmission of Fabrics—**L** . . . 322
Davies, J. L. Estimation of the Area of Paracortex in Wool Fiber Cross Sections Using Methylene Blue Staining: The Effects of Fading and Clarity of Differentiation—**L** . . . 1028
The Fading Effect in Methylene Blue Staining of Wool Fiber Sections—**L** . . . 400
DeLuca, Lloyd B. The Effect of Testing Conditions on Fiber Drag. *Part I:* Dynamic Method (*Simpson*) . . . 62
Denby, E. F. Induction Period of Shrinkproofed Fabrics (*Andrews*)—**L** . . . 959
Denton, Michael J. Use of the Immersion Technique for Measuring the Volume of Yarn Packages—**L** . . . 80
Desai, R. M. Studies in Cross-Linking Reactions of Cellulose. *Part I:* 1:3-Dichloro-2-Propanol and Its Acetyl Propionyl and Butyryl Esters (*Chipalkatti, Sattur, Varghese, Patel*) . . . 282
D'Silva, A. P. Heats of Dyeing of Direct Cotton Dyes on Cellulose: A New Thermodynamic Approach to the Determination of Activity of Direct Dyes in Cellulose . . . 40

Edgar, Rachel Change in Cotton, Linen, Rayon, and Cellulose Secondary Acetate with Temperature of Steaming (*Ester, Gerber*) . . . 357
Eggerton, F. Y. The Behavior of Ethylenimine with Cellulose in the Presence of Acetic Acid (*Segal*) . . . 739
Ester, Virginia C. Change in Cotton, Linen, Rayon, and Cellulose Secondary Acetate with Temperature of Steaming (*Gerber, Edgar*) . . . 357
Eyring, Henry The Differential Thermal Analysis of Natural and Modified Wool and Mohair (*Felix, McDowall*) . . . 465

Felix, W. Dale The Differential Thermal Analysis of Natural and Modified Wool and Mohair (*McDowall, Eyring*) . . . 465
Fenner, Terrence W. Cotton Stretch Fabrics by Slack Mercerization. *Part II:* Effects of Cross-Linking (*Kullman, Frick, Reinhardt, Reid*) . . . 199
Fenstermaker, Carl A. Stress-Strain Relationships in Yarns Subjected to Rapid Impact Loading. *Part X:* Stress–Strain Curves Obtained by Impacts with Rifle Bullets (*Smith, Shouse*) . . . 919
Feughelman, M. The Mechanical Properties of Permanently Set and Cystine Reduced Wool Fibers at Various Relative Humidities and the Structure of Wool . . . 1013
Filshie, B. K. Observations by Light and Electron Microscopy on Wool Cuticle Fractions Obtained by Ultrasonics (*Bradbury, Rogers*) . . . 251
The Theory of Shrinkproofing of Wool. *Part V:* Electron and Light Microscopy of Wool Fibers after Chemical Treatments (*Bradbury, Rogers*) . . . 617
Finkner, Morris D. Wearing Qualities of Selected New Mexico Wools. *Part II:* Yarn Count, Thickness, Capacitance, and Weight (*Lee*) . . . 853
Fiori, Louis A. Investigation of the Minimum Length of Cotton Fiber Effective in Single Yarn Tenacity (*Tallant, Little, Castillon*) . . . 1005
The Utilization of Diplodia-Damaged Boll-Rot Cotton. *Part II:* Effects on the Properties of a Filling-Faced Sateen (*Sands, Groves, Sloan, Marsh*) . . . 371
Fleisand, Gerd Relation between Shrinkage and Swelling for Set Fibers (*Lindberg*)—**L** . . . 660
Francis, Thomas The Base-Catalyzed Condensation of Cellulosic Fabrics with Volatile Epoxides (*Staples*) . . . 583
Freeston, W. D., Jr. A Dynamic Analysis of Coplanar Crimped Elastic Filaments (*Hurt, Suppiger*) . . . 993
Frick, J. G., Jr. Cotton Stretch Fabrics by Slack Mercerization. *Part II:* Effects of Cross-Linking (*Kullmann, Fenner, Reinhardt, Reid*) . . . 199
Studies on the Distribution of Cross-Links in Wrinkle-Resistant Cottons (*Reeves, Kullman, Reinhardt*) . . . 169
Fröhlich, Hans Gunther Infrared Studies of Carroted Fur (*Rau*)—**L** . . . 865

Gagliardi, D. D. Molecular Structure and Chlorine Stability in Cotton Finishes (*Shippee*) . . . 182
Gan, Ludwik R. Dylan Cube Washing Apparatus—**L** . . . 873
Machine Washable Knitted Wool Garments: Engineering the Structure of Fabric to Meet Specific Requirements—**L** . . . 961
Gerber, Ruth Change in Cotton, Linen, Rayon, and Cellulose Secondary Acetate with Temperature of Steaming (*Ester, Edgar*) . . . 357
Getchell, Nelson F. Warm, Lofty Cotton Fabrics—Some Exploratory Studies (*Krasny, Tovey*) . . . 889
Ghose, Sourendra nath The Effects of Physical and Chemical Properties of Cellulosic Fibers on Anaerobic Deterioration by Pure Cultures (*King*) . . . 392
Giles, Charles H. The Lightfastness of Dyes: A Review (*McKay*) . . . 527
Gilkey, John W. Durable Water Repellency by Chemical Bonding of Silicones . . . 129
Gill, Robert A. Recovery and Humidity [Reply to J. T. Marsh] (*Steele*)—**L** . . . 81
Gingras, B. A. Photochemical Degradation of Cotton Cellulose (*Cooney, Jackson, Bayley*) . . . 1000
Goldman, Ralph F. Physiologic Effects of Wearing a Rubberized Net Overgarment in the Heat—**L** . . . 764
Gonzales, Elwood J. The Bonding of Phenols to Cotton with Zirconium Acetate (*Welch, Guthrie*) . . . 600
Goodwin, F. L. The Use of Tollen's Reagent in the Microscopical Study of the Surface Characteristics of Natural and Synthetic Fibers—**L** . . . 864
Grant, James N. Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part I:* Fiber Changes as Measured by Alkali Centrifuge Test (*Honold, Andrews*) . . . 51
Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part II:* Equilibrium Moisture and Density (*Andrews, Honold*) . . . 609
Heating, Cleaning, and Mechanical Processing Effects on Cottons. *Part III:* Fiber Properties and Spinning Behavior (*Kingsbery, Tsoi, Griffin*) . . . 839
Relationships of Cotton Fabric Thickness and Compressional Resilience to Wash-Wear Properties (*Herbert, Weiss, Orr*) . . . 510
Griffin, A. Clyde Heating, Cleaning, and Mechanical Processing Effects on Cottons. *Part III:* Fiber Properties and Spinning Behavior (*Grant, Kingsbery, Tsoi*) . . . 839
Groh, G. J. Some Properties of 50/50 Nylon/Cotton and Nylon/Viscose Blends. *Part I:* The Strength and Air Permeability of Fabrics Varying in Construction (*Krasny, Yelland*) . . . 829
Groves, N. H. The Utilization of Diplodia-Damaged Boll-Rot Cotton. *Part II:* Effects on the Properties of a Filling-Faced Sateen (*Sands, Fiori, Sloan, Marsh*) . . . 371
Gupta, V. D. The Modulus of Polyethylene (*Tobolsky*)—**L** . . . 761
Gusack, J. A. Denier Distribution of Textile Fibers Obtained with an Electrical Sensing Zone Particle Analyzer (Coulter Counter) (*Bloch*) . . . 224
Guthrie, John D. The Bonding of Phenols to Cotton with Zirconium Acetate (*Gonzales, Welch*) . . . 600
Influence of Formaldehyde Concentration on the Cross-Links Introduced into Cotton Cellulose—**L** . . . 955

Haly, A. R. The Longitudinal Swelling of Modified Lincoln Wool Fibers (*Snaith*)—**L** . . . 872
Recovery from Supercontraction in Reduced and Alkylated Wool Fibers (*Snaith*) . . . 669
Supercontraction of Orthocortex and Paracortex of Wool: Relative Disulfide Contents . . . 233
Harbrink, P. Changes in Certain Structural and Mechanical Properties of Cotton Cellulose with Progressive Acetylation (*Conrad, Murphy*) . . . 784
Hardy, H. B., Jr. Moisture Transfer in Textile Systems—**L** . . . 754
Haylett, T. A Physicochemical Study of the High-Sulfur Proteins from Oxidized Wool (*Joubert, Swart, Louw*) . . . 639
Hearle, J. W. S. Nonwoven Fabric Studies. *Part III:* The Anisotropy of Nonwoven Fabrics (*Stevenson*) . . . 877
Relations between Specific Volume, Count, and Twist of Spun Nylon Yarns (*Merchant*) . . . 417
Hebert, Jacques J. Relationships of Cotton Fabric Thickness and Compressional Resilience to Wash-Wear Properties (*Weiss, Orr, Grant*) . . . 510
Heiges, E. O. J. Some Observations on Wet-Soiling of Resin-Treated Cottons (*Nuessle, Nageley*) . . . 146

Hocutt, R. Hovan Automated Cleaning 1049
Hoffman, Milton J. Cotton Stretch Fabrics by Slack Mercerization. *Part I:* The Effects of Yarn and Fabric Construction (*Sloan, Murphy, Moore, Cooper*) 191
Holboke, Lawrence E. A Study of the Effect of Cotton Fiber Structure on Luster (*Berriman*) 205
Honold, Edith Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part I:* Fiber Changes as Measured by Alkali Centrifuge Test (*Andrews, Grant*) 51
Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part II:* Equilibrium Moisture and Density (*Andrews, Grant*) 609
Howard, William H. The Viscoelastic Properties of Oriented Nylon 66 Fibers. *Part I:* Creep at Low Loads and Anhydrous Conditions (*Williams*) 689
Huff, J. Craig, Jr. Draper's Approach to Automatic Doffing of Filling Spinning Frames 1046
Hurt, W. C. A Dynamic Analysis of Coplanar Crimped Elastic Filaments (*Freeston, Suppiger*) 993

Inglis, A. S. Studies in Wool Yellowing. *Part IV:* Changes in Amino Acid Composition Due to Irradiation (*Lennox*) . . . 431
Wool Shrinkproofing Studies. *Part III:* Fiber Modification in Neutral Potassium Permanganate–Salt Treatments (*Andrews, Rothery, Williams*) 705
Iyengar, R. L. N. Structural Properties of Cotton Fibers. *Part II:* Birefringence and Structural Reversals in Relation to Mechanical Properties (*Betrabet, Pillay*) 720
Suitability of the Micronaire Instrument for the Determination of the Fineness of Indian Cottons (*Prakash*)—**L** 245
Iyer, K. Balakrishna Effect of Twist on Continuous Filament Rayon Yarn 68

Jackson, K. A. Photochemical Degradation of Cotton Cellulose (*Gingras, Cooney, Bayley*) . . . . . Dec
Jedryka, Tadeusz A Method for the Determination of Hairiness of Yarn—**L** 663
Jermyn, M. A. A Simple Method of Determining the Accessibility of Cellulose to Enzymic Attack—**L** 317
Johnston, Jesse E., Jr. Abrasion Resistance of Weathered Fabrics (*Weiner, Pope*)—**L** 665
Jones, Herman J. Automation, Bale to Cone 1036
Joubert, F. J. A Physicochemical Study of the High-Sulfur Proteins from Oxidized Wool (*Haylett, Swart, Louw*) 639

Kaplan, A. M. A Study of the Deterioration of Fungicide-Treated Fabrics in Soil Burial (*Kempton, Maisel*) 87
Kempton, A. G. A Study of the Deterioration of Fungicide-Treated Fabrics in Soil Burial (*Maisel, Kaplan*) 87
King, Kendall W. The Effects of Physical and Chemical Properties of Cellulosic Fibers on Anaerobic Deterioration by Pure Cultures (*Ghose*) 392
Kingsbery, Emery C. Heating, Cleaning, and Mechanical Processing Effects on Cotton. *Part III:* Fiber Properties and Spinning Behavior (*Grant, Tsoi, Griffin*) 839
Knudsen, J. P. The Influence of Coagulation Variables on the Structure and Physical Properties of an Acrylic Fiber 13
Kodani, R. Y. Wool Stabilization by Interfacial Polymerization. *Part VI:* Relative Rates of Hydrolysis of Acid Chlorides (*Wasley, Whitfield, Miller*)—**L** 1029
Krasny, J. F. Some Properties of 50/50 Nylon/Cotton and Nylon/Viscose Blends. *Part I:* The Strength and Air Permeability of Fabrics Varying in Construction (*Groh, Yelland*) 829
Warm, Lofty Cotton Fabrics—Some Exploratory Studies (*Getchell, Tovey*) 889
Kullman, Russell M. H. Cotton Stretch Fabrics by Slack Mercerization. *Part II:* Effects of Cross-Linking (*Fenner, Frick, Reinhardt, Reid*) 199
Studies on the Distribution of Cross-Links in Wrinkle-Resistant Cottons (*Reeves, Frick, Reinhardt*) 169
Kuwana, Zyuiti Studies in Mothproofing. *Part I:* Relation between Content of Mothproofing Agents and Durability of Moth Resistance in Woolen Fabrics Following Washing and Dry Cleaning (*Nakamura, Sugiyama*) 489
Studies in Mothproofing. *Part II:* Feeding Damage to Several Kinds of Fibers by the Larvae of Two Species of Clothes Moth, with a Note on Their Life Histories (*Nakamura*) . . 649
Studies in Mothproofing. *Part III:* Patterns of Damage Caused in Mothproofed Woolen Fabrics by Two Species of Clothes Moth (*Nakamura*) 745

Laughlin, R. D. Needle Temperature Measurements by Infrared Pyrometry 35
Launer, Herbert F. Effect of Light upon Wool. *Part I:* Greening and Yellowing by Germicidal Ultraviolet 258
Effect of Light upon Wool. *Part II:* Comparative Reflectance as a Measure of Color Change 351
Effect of Light upon Wool. *Part III:* Post-Irradiation Loss of Color in the Dark after Germicidal UV Exposure 910
Lee, Julia Southard Wearing Qualities of Selected New Mexico Wools. *Part II:* Yarn Count, Thickness, Capacitance, and Weight (*Finkner*) 855
Lennox, F. G. Studies in Wool Yellowing. *Part IV:* Changes in Amino Acid Composition Due to Irradiation (*Inglis*) . . . 431
Lifland, Leonard 6,6'-Disulfide Cross-Links in Cotton Cellulose. *Part II:* Effects of Different Cross-Linking Conditions (*Schwenker*) 107

Lindberg, J. Relation between Shrinkage and Swelling for Set Fibers (*Fløisand*)—**L** 660
Little, Herschel W. Investigation of the Minimum Length of Cotton Fiber Effective in Single Yarn Tenacity (*Tallant, Fiori, Castillon*) 1005
Loeb, L. Water Retention by Cotton Fabric During Centrifuging 521
Louw, D. F. A Physicochemical Study of the High-Sulfur Proteins from Oxidized Wool (*Haylett, Joubert, Swart*) 639
Lyons, W. James Statistical Treatment of Data and Extreme-Value Theory in Relation to Fatigue in Textiles (*Prevorsek, Whitwell*) 963

McDowall, Max A. The Differential Thermal Analysis of Natural and Modified Wool and Mohair (*Felix, Eyring*) 465
Mack, Charles H. Recovery and Humidity (*Wade*)—**L** 958
McKay, R. B. The Dye-Staining of Micro-Organisms: A Review 381
The Lightfastness of Dyes: A Review (*Giles*) 527
McKelvey, John B. The Treatment of Cotton with Ammonia-Epichlorohydrin Reaction Products (*Benerito, Berni, Burgis*) 273
Maclaren, J. A. Studies in Wool Yellowing. *Part VI:* Changes in Amino Acid Composition Due to Yellowing with Particular Reference to Cystine 773
McPhee, J. R. Shrinkproofing of Wool with Cupric Ammonium Sulfite Solutions—**L** 578
Shrinkproofing of Wool with Peracetic Acid Followed by Sodium Sulfite—**L** 755
McSherry, Wilbur F. Thermal Stress Behavior of Radiation-Induced Graft Polymers of Cotton (*Arthur, Markezich*) . . . 896
Maisel, H. A Study of the Deterioration of Fungicide-Treated Fabrics in Soil Burial (*Kempton, Kaplan*) 87
Majumdar, S. K. The Effects of Gamma Radiation on Jute (*Rapson*) 1
Manabe, Tomonobu Some Problems in Melt Spinning Processes. *Part I:* Method for Estimating the Tension Acting on a Fiber 221
Mares, Trinidad Preparation of Methyl-C^{14}-Cellulose from Cotton Cellulose (*Arthur*)—**L** 661
Markezich, Anthony R. Thermal Stress Behavior of Radiation-Induced Graft Polymers of Cotton (*Arthur, McSherry*) . . 896
Marsh, J. T. Recovery and Humidity—**L** 80
Recovery and Humidity—**L** 959
Wet Recovery and Peripheral Treatment—**L** 249
Marsh, P. B. The Utilization of Diplodia-Damaged Boll-Rot Cotton. *Part II:* Effects on the Properties of a Filling-Faced Sateen (*Sands, Fiori, Groves, Sloan*) 371
Mehta, P. C. Further Data on DMU-Treated Cotton Fabrics (*Mehta*)—**L** 870
Mehta, R. D. Further Data on DMU-Treated Cotton Fabrics (*Mehta*)—**L** 870
Mehta, S. B. Quantitative Estimation of Binary Mixture of Sisal and Manila Fibers by Staining Technique (*Dave*)—**L** . . . 320
Merchant, V. B. Effect of Fiber Configuration in Feed on Comber Waste—**L** 239
Relations between Specific Volume, Count, and Twist of Spun Nylon Yarns (*Hearle*) 417
Merkel, R. S. Dependence of Cotton Fiber Friction on Load and Velocity—**L** 84
Michie, R. I. C. Nonwoven Fabric Studies. *Part I:* Properties of Laboratory-Made Fabrics Bonded with Natural Rubber (*Peters, Taylor*) 325
Nonwoven Fabric Studies. *Part II:* The Relationship between Bonding Strength and the Variation of Fabric Strength with Jaw Span 403
Millard, F. Effects of Preconditioning of Various Fibers—**L** . . . 322
Miller, L. A. Wool Stabilization by Interfacial Polymerization. *Part IV:* Polyureas, Polyesters, Polycarbonates, and Further Studies on Polyamides (*Whitfield, Wasley*) 440
Wool Fabric Stabilization by Interfacial Polymerization. *Part V:* Copolymers (*Whitfield, Wasley*) 752
Wool Stabilization by Interfacial Polymerization. *Part VI:* Relative Rates of Hydrolysis of Acid Chlorides (*Wasley, Whitfield, Kodani*)—**L** 1029
Milligan, Brian Reactive Dyes Related to the Remazol Class (*Caldwell*) 481
Studies on Wool Yellowing. *Part V:* Effect of Buffer Pretreatment on the Sunlight Yellowing of Wool (*Tucker*)—**L** 487
Mitchell, Barbara W. The Effect of Soil on Resistance to Abrasion of a Wool Fabric (*Morris, Aas-Wang*) 424
Moore, Anna T. Structure and Properties of Chemically Modified Cotton (*Rollins, Tripp*) 117
Moore, Harry B. Cotton Stretch Fabrics by Slack Mercerization. *Part I:* The Effects of Yarn and Fabric Construction (*Sloan, Murphy, Hoffman, Cooper*) 191
Morbey, G. K. Solution Spinning from a Mixed Polymer System; A Multivariable Study (*Whitwell*) 673
Morris, Mary Ann The Effect of Soil on Resistance to Abrasion of a Wool Fabric (*Mitchell, Aas-Wang*) 424
Murphy, Alton L. Changes in Certain Structural and Mechanical Properties of Cotton Cellulose with Progressive Acetylation (*Conrad, Harbrink*) 784
Cotton Stretch Fabrics by Slack Mercerization. *Part I:* The Effects of Yarn and Fabric Construction (*Sloan, Hoffman, Moore, Cooper*) 191

Nabar, G. M. Reduction Potentials of Vat Dyes and Their Relation to the Ease of Reduction and Tendering Behavior (*Shenai*) 471
Studies in the Reaction of Formaldehyde with Unmodified, Modified, and Dyed Celluloses. *Part III:* The Reaction of Formaldehyde with Oxycelluloses (*Datye*) 500

Nageley, M. Some Observations on Wet-Soiling of Resin-Treated Cottons (*Nuessle, Heiges*) 146
Nakamura, Sigeko Studies in Mothproofing. *Part I:* Relation between Content of Mothproofing Agents and Durability of Moth Resistance in Woolen Fabrics Following Washing and Dry Cleaning (*Kuwana, Sugiyama*) 489
Studies in Mothproofing. *Part II:* Feeding Damage to Several Kinds of Fibers by the Larvae of Two Species of Clothes Moth, with a Note on Their Life Histories (*Kuwana*) . . . 649
Studies in Mothproofing. *Part III:* Patterns of Damage Caused in Mothproofed Woolen Fabrics by Two Species of Clothes Moth (*Kuwana*) 745
Nelson, Mary L. X-Ray Diffractograms of Cotton: Effect of Sample Weight and Other Variables (*Schultz*) 515
Newell, William A. Introduction to Symposium on Automated Textile Processing 1035
Norman, Nico An X-Ray Diffraction Study of the Conformation of the Cellulose Chain 711
Nuessle, A. C. Some Observations on Wet-Soiling of Resin-Treated Cottons (*Nageley, Heiges*) 146

Oberg, A. G. Cellulose Swelling Measured by Propanol-2 Retention (*Andrews*) 330
O'Connell, R. A. Graphical Solution of Wool Fineness Distribution Data—L 758
Oroszlan, A. Reactions of Cellulose with Unsymmetrical Sulfones (*Tesoro*) 93
Orr, Rollin S. Relationships of Cotton Fabric Thickness and Compressional Resilience to Wash-Wear Properties (*Hebert, Weiss, Grant*) 510

Patel, J. C. Studies in Cross-Linking Reactions of Cellulose. *Part I:* 1 : 3-Dichloro-2-Propanol and Its Acetyl Propionyl and Butyryl Esters (*Chipalkatti, Desai, Sattur, Varghese*) . . . 282
Peper, Henry Wet Soiling of Cotton. *Part I:* The Effect of Finishes on Soiling (*Berch*) 137
Peters, R. H. Nonwoven Fabric Studies. *Part I:* Properties of Laboratory-Made Fabrics Bonded with Natural Rubber (*Michie, Taylor*) 325
Petterson, D. R. Relationships between the Structural Geometry of a Fabric and its Physical Properties. *Part VII:* Mechanics of Nonwovens: Orthotropic Behavior (*Backer*) 809
Pillay, K. P. R. Investigation of the Relation between the Tensile Properties of Cotton Fiber Bundles and Yarns in the Dry and Wet States 333
Structural Properties of Cotton Fibers. *Part II:* Birefringence and Structural Reversals in Relation to Mechanical Properties (*Betrabet, Iyengar*) 720
Pittman, Allen G. Grafting of Poly(1,1-Dihydroperfluoroalkyl Acrylates) on Wool 817
Use of 1-(Perfluoroacyl)aziridines on Wool—L 953
Pope, Clarence J. Abrasion Resistance of Weathered Fabrics (*Weiner, Johnston*)—L 665
Correlation of Laboratory Abrasion Testers (*Weiner*)—L . . 761
Prakash, Jai Suitability of the Micronaire Instrument for the Determination of the Fineness of Indian Cottons (*Iyengar*)—L 245
Prevorsek, D. Determination of Non-Flow Shrinkage Ratio in Oriented Fibers (*Tobolsky*) 795
Statistical Treatment of Data and Extreme-Value Theory in Relation to Fatigue in Textiles (*Lyons, Whitwell*) 963
Pujal, Marcos The Measurement of Card Web Transparency and its Unevenness (*Barella, Viaplana*) 411

Quynn, Richard G. Internal Volume in Fibers 21

Rapson, W. H. The Effects of Gamma Radiation on Jute (*Majumdar*) 1
Rashbrook, R. B. Determination of Isophthalic Acid in the Presence of Terephthalic Acid in Polyester Fibers (*Clarke*)—L 167
Rau, Johannes Infrared Studies of Carroted Fur (*Fröhlich*)—L 865
Rebenfeld, L. The Forces and Kinetics of Supercontraction of Keratin Fibers in 9 *M* LiCl (*Weigmann, Dansizer*) 779
Mechanical Properties of Set Keratin Fibers (*Dansizer*) . . 458
The Supercontraction in 9 *M* LiCl at 94° C of Chemically Modified Wool Fibers (*Weigmann*) 985
Reeves, Wilson A. Studies on the Distribution of Cross-Links in Wrinkle-Resistant Cottons (*Kullman, Frick, Reinhardt*) . . 169
Reid, J. David Cotton Stretch Fabrics by Slack Mercerization. *Part II:* Effects of Cross-Linking (*Kullman, Fenner, Frick, Reinhardt*) 199
Reinhardt, Robert M. Cotton Stretch Fabrics by Slack Mercerization. *Part II:* Effects of Cross-Linking (*Kullmann, Fenner, Frick, Reid*) 199
Studies on the Distribution of Cross-Links in Wrinkle-Resistant Cottons (*Reeves, Kullman, Frick*) 169
Roberts, Frederick W. Cost, Quality, and Automation 1041
Rogers, G. E. Observations by Light and Electron Microscopy on Wool Cuticle Fractions Obtained by Ultrasonics (*Bradbury, Filshie*) 251
The Theory of Shrinkproofing of Wool. *Part IV:* Electron and Light Microscopy of Polyglycine on the Fibers (*Bradbury*) 452
The Theory of Shrinkproofing of Wool. *Part V:* Electron and Light Microscopy of Wool Fibers after Chemical Treatments (*Bradbury, Filshie*) 617
Rollins, Mary L. Structure and Properties of Chemically Modified Cotton (*Moore, Tripp*) 117
Rose, G. R. F. The Effect of Noncellulosic Material on the Actinic Degradation of Cotton Fabric. *Part I:* Some Copper-Containing Fungicides (*Bayley, Clifford, Cooney*) 849
Rosenbaum, Shlomo Cationic Dyeing Equilibria on Polyacrylonitrile Fibers 899
Rothery, Freda E. Wool Shrinkproofing Studies. *Part III:* Fiber Modification in Neutral Potassium Permanganate–Salt Treatments (*Andrews, Inglis, Williams*) 705
Rowlands, R. J. Comfort Properties of Blankets. *Part I:* Measurement of Thermal Conductivity 343
Thickness of Blankets and Soft Textile Materials—L 242
Rutherford, Henry A. A Vapor-Phase Technique for Radiation-Induced Grafting of Vinyl Monomers to Fibers (*Armstrong*) 264

Sanders, John H. A Method for the Direct Replication of Fiber Surfaces—L 399
Sands, J. E. The Utilization of Diplodia-Damaged Boll-Rot Cotton. *Part II:* Effects on the Properties of a Filling-Faced Sateen (*Fiori, Groves, Sloan, Marsh*) 371
Sattur, N. B. Studies in Cross-Linking Reactions of Cellulose. *Part I:* 1 : 3-Dichloro-2-Propanol and Its Acetyl Propionyl and Butyryl Esters (*Chipalkatti, Desai, Varghese, Patel*) . . . 282
Schultz, E. Fred, Jr. X-Ray Diffractograms of Cotton: Effects of Sample Weight and Other Variables (*Nelson*) 515
Schwenker, R. F., Jr. 6,6'-Disulfide Cross-Links in Cotton Cellulose. *Part II:* Effects of Different Cross-Linking Conditions (*Lifland*) 107
Scroggie, A. G. Effects of Preconditioning of Various Fibers [Reply to F. Millard] (*Cooper*)—L 323
Segal, Leon The Behavior of Ethylenimine with Cellulose in the Presence of Acetic Acid (*Eggerton*) 739
Shenai, V. A. Reduction Potentials of Vat Dyes and Their Relation to the Ease of Reduction and Tendering Behavior (*Nabar*) 471
Shippee, F. B. Molecular Structure and Chlorine Stability in Cotton Finishes (*Gagliardi*) 182
Shouse, Paul J. Stress–Strain Relationships in Yarns Subjected to Rapid Impact Loading. *Part X:* Stress–Strain Curves Obtained by Impacts with Rifle Bullets (*Smith, Fenstermaker*) . . . 919
Simpson, Jack The Effect of Testing Conditions on Fiber Drag. *Part I:* Dynamic Method (*DeLuca*) 62
Sloan, William G. Cotton Stretch Fabrics by Slack Mercerization. *Part I:* The Effects of Yarn and Fabric Construction (*Murphy, Hoffman, Moore, Cooper*) 191
The Utilization of Diplodia-Damaged Boll-Rot Cotton. *Part II:* Effects on the Properties of a Filling-Faced Sateen (*Sands, Fiori, Groves, Marsh*) 371
Smith, Jack C. Specific Breaking Energy for Human Hair: Corrected Values—L 168
Stress–Strain Relationships in Yarns Subjected to Rapid Impact Loading. *Part X:* Stress–Strain Curves Obtained by Impacts with Rifle Bullets (*Fenstermaker, Shouse*) 919
Snaith, J. W. The Longitudinal Swelling of Modified Lincoln Wool Fibers (*Haly*)—L 872
Recovery from Supercontraction in Reduced and Alkylated Wool Fibers (*Haly*) 669
Snyman, J. G. Cortical Bilateral Structure and Wool Crimp . . 803
Methods of Studying Cortical Differentiation in Merino Wool 217
Staples, M. L. The Base-Catalyzed Condensation of Cellulosic Fabrics with Volatile Epoxides (*Francis*) 583
Steele, Richard Recovery and Humidity [Reply to J. T. Marsh] (*Gill*)—L 81
Stevenson, P. J. Nonwoven Fabric Studies. *Part III:* The Anisotropy of Nonwoven Fabris (*Hearle*) 877
Sugiyama, Hirosi Studies in Mothproofing. *Part I:* Relation between Content of Mothproofing Agents and Durability of Moth Resistance in Woolen Fabrics Following Washing and Dry Cleaning (*Kuwana, Nakamura*) 489
Suppiger, E. W. A Dynamic Analysis of Coplanar Crimped Elastic Filaments (*Freeston, Hurt*) 993
Load-Deflection Analysis of Fibers with Three-Dimensional Crimp (*Chicurel*) 767
Sust, A. Cohesion Phenomena in Cotton Rovings and Yarns. *Part II:* Influence of Twist on Yarn Cohesion (*Barella*) 75
Swanepoel, O. A. The Influence of Alkaline Media on the Configuration of the Disulfide Linkages in Supercontracted Wool Fibers—L 313
Swart, L. S. A Physicochemical Study of the High-Sulfur Proteins from Oxidized Wool (*Haylett, Joubert, Louw*) 639

Tallant, John D. Investigation of the Minimum Length of Cotton Fiber Effective in Single Yarn Tenacity (*Fiori, Little, Castillon*) 1005
Taylor, W. Nonwoven Fabric Studies. *Part I:* Properties of Laboratory-Made Fabrics Bonded with Natural Rubber (*Michie, Peters*) 325
Tesoro, G. C. Reactions of Cellulose with Unsymmetrical Sulfones (*Oroszlan*) 93
Tobolsky, A. V. Determination of Non-Flow Shrinkage Ratio in Oriented Fibers (*Prevorsek*) 795
The Modulus of Polyethylene (*Gupta*)—L 761
Tovey, Henry Warm, Lofty Cotton Fabrics—Some Exploratory Studies (*Krasny, Getchell*) 889
Tripp, Verne W. Structure and Properties of Chemically Modified Cotton (*Rollins, Moore*) 117
Tsoi, Ruby H. Heating, Cleaning, and Mechanical Processing Effects on Cottons. *Part III:* Fiber Properties and Spinning Behavior (*Grant, Kingsbery, Griffin*) 839
Tucker, Daryl J. Studies on Wool Yellowing. *Part V:* Effect of Buffer Pretreatment on the Sunlight Yellowing of Wool (*Milligan*)—L 487

Varghese, J. Studies in Cross-Linking Reactions of Cellulose. *Part I:* 1:3-Dichloro-2-Propanol and Its Acetyl Propionyl and Butyryl Esters (*Chitalkatti, Desai, Sattur, Patel*) 282
Vassiliadis, A. Lanthionine Formation in Wool during Treatments with Sodium Thiosulfate 376
Viaplana, Antonio The Measurement of Card Web Transparency and its Unevenness (*Barella, Pujal*) 411
Vidiella, J. E. The Effect of Drafting Speed, in Terms of Spindle Speed, on the Properties of Cotton Yarns (*Audivert*)—L 319

Wade, Clinton P. Recovery and Humidity (*Mack*)—L . . . 958
Wakankar, V. A. Effect of Fiber Configuration in Feed on Comber Waste [Reply to V. B. Merchant] (*Bhaduri*)—L 240
Wasley, W. J. Wool Stabilization by Interfacial Polymerization. *Part IV:* Polyureas, Polyesters, Polycarbonates, and Further Studies on Polyamides (*Whitfield, Miller*) 440
Wool Fabric Stabilization by Interfacial Polymerizaton. *Part V:* Copolymers (*Whitfield, Miller*) 752
Wool Stabilization by Interfacial Polymerization. *Part VI:* Relative Rates of Hydrolysis of Acid Chlorides (*Whitfield, Miller, Kodani*)—L 1029
Watt, I. C. The Sorption Behavior of Cystine-Modified Wool . . 631
Weigmann, H. D. The Forces and Kinetics of Supercontraction of Keratin Fibers in 9 *M* LiCl (*Rebenfeld, Dansizer*) . . . 779
The Supercontraction in 9 *M* LiCl at 94° C of Chemically Modified Wool Fibers (*Rebenfeld*) 985
Weiner, Louis I. Abrasion Resistance of Weathered Fabrics (*Pope, Johnston*)—L 665
Correction of Laboratory Abrasion Testers (*Pope*)—L 761
Weiss, Louis C. Relationships of Cotton Fabric Thickness and Compressional Resilience to Wash-Wear Properties (*Hebert, Orr, Grant*) 510
Welch, Clark M. The Bonding of Phenols to Cotton with Zirconium Acetate (*Gonzales, Guthrie*) 600
The Use of Bis(Hydroxyethyl) Sulfone in Multipurpose Finishes for Cotton—L 165

Whiteley, K. J. Creep of Wool Fibers. *Part II:* Molecular Mechanical Constants for Creep in the Yield Region (*Balasubramaniam*) 436
Some Rheological Properties of Indian Carpet Wools (*Bhogale*)—L 161
Whitfield, R. E. Wool Stabilization by Interfacial Polymerization. *Part IV:* Polyureas, Polyesters, Polycarbonates, and Further Studies on Polyamides (*Miller, Wasley*) 440
Wool Fabric Stabilization by Interfacial Polymerization. *Part V:* Copolymers (*Miller, Wasley*) 752
Wool Stabilization by Interfacial Polymerization. *Part VI:* Relative Rates of Hydrolysis of Acid Chlorides (*Wasley, Miller, Kodani*)—L 1029
Whitwell, J. C. Solution Spinning from a Mixed Polymer System; A Multivariable Study (*Morbey*) 673
Statistical Treatment of Data and Extreme-Value Theory in Relation to Fatigue in Textiles (*Prevorsek, Lyons*) 963
Williams, Malcolm L. The Extension of Unoriented Nylon 66 Filaments. *Part II:* Phenomenological Relationships (*Bender*) 1023
The Viscoelastic Properties of Oriented Nylon 66 Fibers. *Part I:* Creep at Low Loads and Anhydrous Conditions (*Howard*) 689
Williams, V. A. Wool Shrinkproofing Studies. *Part II:* The Felting Shrinkage of Permanganate-Treated Wool 444
Wool Shrinkproofing Studies. *Part III:* Fiber Modification in Neutral Potassium Permanganate–Salt Treatments (*Andrews, Inglis, Rothery*) 705
Woodcock, Alan H. Moisture Transfer in Textile Systems [Reply to H. B. Hardy, Jr.]—L 755

Yelland, W. E. C. Some Properties of 50/50 Nylon/Cotton and Nylon/Viscose Blends. *Part I:* The Strength and Air Permeability of Fabrics Varying in Construction (*Krasny, Groh*) 829

Zahn, H. Comment on "Dylan Cube Washing Apparatus" by Ludwik R. Gan (*Blankenburg*)—L 875

SUBJECT INDEX

Abrasion, see **Wear**
Acrylic Fibers, see **Man-made fibers**
Apparatus, see **Testing apparatus**
Automation, see **Textile processing**

Bast Fibers
flax: change in linen cloth with temperature of steaming *Ester, Gerber, Edgar* 357
Jute: assessment of average filament length and fineness by dye-sampling *Bandyopadhyay*—L 163
Jute: crystallinity at different stages of growth of plant *Chakravarty*—L 662
Jute: deterioration due to micro-organisms and weathering compared to cotton *Bhattacharyya, Basu*—L 868
Jute/gamma radiation *Majumdar, Rapson* 1
Jute yarns: optimum twist factor/size and fiber quality; tex-tenacity relations/twist factor *Bandyopadhyay* 9
Blankets
comfort properties: measurement of thermal conductivity *Rowlands* 343
thickness measured *Rowlands*—L 242
Blends
50/50 nylon/cotton and nylon/viscose: strength and air permeability/construction *Krasny, Groh, Yelland* 829
sisal and manila fibers: quantitative estimation of binary mixture by staining technique *Dave, Mehta*—L 320

Carding, see **Textile processing**
Cellulose
accessibility to enzymic attack: method of determining *Jermyn* 317
base-catalyzed condensation of cellulosic fabrics with volatile epoxides *Francis, Staples* 583
chain conformation studied by x-ray diffraction *Norman* . . . 711
cotton: cross-linking with 6,6′ disulfide: effects of different cross-linking conditions *Schwenker, Lifland* 107
cotton: formaldehyde concentration/cross-links introduced *Guthrie*—L 955
cotton: methyl-C^{14}-cellulose preparation *Mares, Arthur*—L 661
cotton: photochemical degradation *Gingras, Cooney, Jackson, Bayley* 1000
cotton: progressive acetylation/changes in structural and mechanical properties *Conrad, Harbrink, Murphy* 784
cotton and rayon: treated with ethylenimine in presence of acetic acid *Segal, Eggerton* 739
cross-linking: bulky substituents in cross-linking molecule/physicochemical properties of reacted cellulose *Chipalkatti, Desai, Sattur, Varghese, Patel* 282
oxycelluloses: reaction with formaldehyde *Datye, Nabar* . . . 500
swelling measured by propanol-2 retention *Andrews, Oberg* . . 330
unsymmetrical sulfones: reactions *Tesoro, Oroszlan* 93
Cellulose Acetate
secondary: temperature of steaming/change in brightness, weight, strength, copper number, thermodynamic parameters *Ester, Gerber, Edgar* 357
Chemicals, see under **Cotton, chemically treated, Wool, chemically treated, Fungicides, Dyes, Mothproofing, Proofing, Shrinkproofing, etc.**
Cleaning, see **Textile processing**
Clothing
rubberized net overgarment: physiological effects of wearing in the heat *Goldman*—L 764
thermal transmission of fabrics: method of measuring *David* 322
washable knit wool garments: engineering structure of fabric to meet specific requirements *Gan*—L 961
Combing, see **Textile processing**
Cords, see **Tire cords**
Cotton, see **Cellulose, Cotton, chemically treated, Cotton fibers, Cotton quality, Cotton yarn, Fabric geometry, Fiber: yarn; fabric relationships, Moisture phenomena, Testing apparatus and procedures, Textile processing**
Cotton, Chemically Treated (see also **Crease resistance and creaseproofing**)
acetylation/changes in structural and mechanical properties *Conrad, Harbrink, Murphy* 784
ammonia–epichlorohydrin reaction products/properties of fabrics *McKelvey, Benerito, Berni, Burgis* 273
bis(hydroxyethyl) sulfone in multipurpose finishes *Welch*—L 165
chlorine stability and molecular structure in cotton finishes *Shippee, Gagliardi* 182
cross-link distribution in wrinkle-resistant cottons *Reeves, Kullman, Frick, Reinhardt* 169
cross-linking of stretch fabrics *Kullman, Fenner, Frick, Reinhardt, Reid* 199
1: 3-dichloro-2-propanol and its acetyl propionyl and butyryl esters/physicochemical properties *Chipalkatti, Desai, Sattur, Varghese, Patel* 282
dimethylol urea: fabric thickness and compressional resilience/wash-wear properties *Hebert, Weiss, Orr, Grant* 510
dimethylol urea-treated fabrics: water imbibition, moisture regain, periodate oxidation/different conditions *Mehta, Mehta*—L 870
disulfide (6,6′) cross-links: effects of different cross-linking conditions *Schwenker, Lifland* 107
epoxides, volatile: base-catalyzed condensation *Francis, Staples* 583

ethylenimine in presence of acetic acid *Segal, Eggerton* 739
formaldehyde concentration/cross-links introduced *Guthrie*—**L** 955
lofty fabrics: exploratory studies *Krasny, Getchell, Tovey* . . 889
phenols bonded to cotton with zirconium acetate; rot resistance, resistance to extraction, water repellency, flame resistance *Gonzales, Welch, Guthrie* 600
radiation-induced graft polymers: thermal stress behavior *Arthur, Markezich, McSherry* 896
radiation-induced grafting of vinyl monomers to fibers: vapor-phase technique *Armstrong, Rutherford* 264
structure and properties: photomicrographical evidence *Rollins, Moore, Tripp* 117
unsymmetrical sulfones: reactions with cellulose *Tesoro, Oroszlan* 93

Cotton Fibers
birefringence and structural reversals in different species/mechanical properties *Betrabet, Pillay, Iyengar* 720
friction/load and velocity *Merkel*—**L** 84
gamma radiation effects: post-irradiation reactions *Blouin, Arthur* 727
growth rings *Berriman, Benedict*—**L** 1026
heating, cleaning, and mechanical processing: effects *Honold, Andrews, Grant* 51
—— gin drying/equilibrium moisture and density *Andrews, Honold, Grant* 609
—— fiber properties/spinning behavior *Grant, Kingsbery, Tsoi, Griffin* 839
Indian: suitibility of Micronaire instrument for determining fineness *Prakash, Iyengar*—**L** 245
luster/structure *Holboke, Berriman* 205
minimum length effective in single yarn tenacity *Tallant, Fiori, Little, Castillon* 1005
tensile properties in dry and wet states of fiber bundles and yarns *Pillay* 333
undried cotton: properties *Berriman*—**L** 1027

Cotton Quality
Diplodia-**damaged cotton:** effects on properties of a filling-faced sateen *Sands, Fiori, Groves, Sloan, Marsh* 371

Cotton Yarn
minimum length of fiber effective in single-yarn tenacity *Tallant, Fiori, Little, Castillon* 1005
slack mercerization for stretch fabrics: yarn and fabric construction *Sloan, Murphy, Hoffman, Moore, Cooper* 191
tensile properties in dry and wet states of fiber bundles and yarns *Pillay* 333
variance of weight of length vs length (*B L*) curve *Balasubramanian* 697

Crease Resistance and Creaseproofing
cellulose: reactions with unsymmetrical sulfones *Tesoro, Oroszlan* 93
cellulosic fabrics: volatile epoxides/time, temperature, alkali concentration *Francis, Staples* 583
cotton: bis(hydroxyethyl) sulfone in multipurpose finishes *Welch*—**L** 165
cotton: cross-link distribution in acetylated and in partially deacetylated cotton *Reeves, Kullman, Frick, Reinhardt* . . . 169
cotton: 1:3-dichloro-2-propanol and its acetyl propionyl and butyryl esters *Chipalkatti, Desai, Sattur, Varghese, Patel* . . 282
cotton: 6,6′-disulfide treatment: cross-linking conditions/wrinkle recovery *Schwenker, Lifland* 107
cotton: formaldehyde concentration/cross-links introduced *Guthrie*—**L** 955
cotton: RH/crease recovery *Marsh* 80
—— reply *Gill, Steele* 81
cotton: RH/crease recovery *Mack, Wade*—**L** 958
—— further comments *Marsh*—**L** 959
cotton: wet recovery and peripheral treatment *Marsh*—**L** . . . 249
cotton fabric thickness and compressional resilience/wash-wear properties *Hebert, Weiss, Orr, Grant* 510
cotton treated with ammonia-epichlorohydrin reaction products *McKelvey, Benerito, Berni, Burgis* 273

Cross-Linking, see **Cellulose, Cotton, chemically treated, Crease resistance and creaseproofing**

Crimp
cortical bilateral structure of wool *Snyman* 803
load-deflection analysis of fibers with three-dimensional crimp *Chicurel, Suppiger* 767

Detergents, see **Laundering**
Deterioration of Materials, see **Microbiological degradation, Photochemical effects, Wear**
Differential Thermal Analysis, see **Heat phenomena**
Drafting, see **Textile processing**
Dyeing (see also **Dyes**)
cellulose: thermodynamic approach to determination of activity of direct dyes *Daruwalla, D'Silva* 40
cotton: attachment of dyes with bis(hydroxyethyl) sulfone *Welch* 165
dye-staining of micro-organisms: review *McKay* 381
polyacrylonitrile fibers: cationic dyeing equilibria *Rosenbaum* 899
wool fiber sections: Methylene Blue staining, fading effect *Davies*—**L** 400
——: fading and clarity of differentiation 1028
wool with reactive dyes related to the Remazol class *Caldwell, Milligan* 481

Dyes (see also **Dyeing**)
cationic: dyeing equilibria on polyacrylonitrile fibers *Rosenbaum* 899
direct cotton dyes on cellulose: heats of dyeing, thermodynamic approach *Daruwalla, D'Silva* 40
lightfastness: review *Giles, McKay* 527

Methylene Blue stained wool fiber cross sections: fading and clarity of differentiation of paracortex *Davies*—**L** 1028
reactive dyes related to the Remazol class *Caldwell, Milligan* 481
vat dyes: reduction potentials/ease of reduction and tendering behavior *Nabar, Shenai* 471

Fabric Geometry
blends, 50/50 nylon/cotton and nylon/viscose: strength, air permeability/construction *Krasny, Groh, Yelland* 829
cotton fabric thickness and compressional resilience/wash-wear properties *Hebert, Weiss, Orr, Grant* 510
cotton stretch fabrics by slack mercerization: yarn and fabric construction *Sloan, Murphy, Hoffman, Moore, Cooper* . . . 191
knitted wool garments (machine washable): engineering structure to meet specific requirements *Gan*—**L** 961
lofty cotton fabrics: exploratory studies *Krasny, Getchell, Tovey* 889
nonwovens: anisotropy *Hearle, Stevenson* 877
nonwovens: bonding strength/variation of fabric strength with jaw span *Michie* 403
nonwovens: laboratory-made fabrics bonded with natural rubber/properties *Michie, Peters, Taylor* 325
nonwovens: orthotropic behavior *Petterson, Backer* 809
wool (worsted): dimensional stability/hygral expansion *Baird* 973

Fabric Testing, see **Testing apparatus and procedures**
Fabrics, see **Fabric geometry, Fiber:yarn:fabric relationships, Knit fabrics, Wool fabrics, Wear**

Fatigue
statistical treatment of data and extreme-value theory *Prevorsek, Lyons, Whitwell* 963

Felting (see also **Shrinkproofing, Wool, chemically treated**)
wool: Dylan cube washing apparatus *Gan*—**L** 873
—— comment *Zahn, Blankenburg*—**L** 875
—— reply *Gan*—**L** 876

Fiber:Yarn:Fabric Relationships
cotton: minimum length of fiber effective in single yarn tenacity *Tallant, Fiori, Little, Castillon* 1005
Diplodia-**damaged cotton**/properties of a filling-faced sateen *Sands, Fiori, Groves, Sloan, Marsh* 371
woven wool fabric: dimensional stability/hygral expansion *Baird* 973

Fibers and Filaments (see also **Bast fibers, Cotton fibers, Keratin, Man-made fibers, Rayon, Sisal and manila fibers, Wool fibers**)
coplanar crimped elastic filaments: dynamic analysis *Freeston, Hurt, Suppiger* 993
denier distribution determined by electrical sensing zone particle analyzer *Bloch, Gusack* 224
internal volume (pore space)/fiber properties *Quynn* 21
load-deflection analysis of fibers with three-dimensional crimp *Chicurel, Suppiger* 767
luster/cotton fiber structure *Holboke, Berriman* 205
melt spinning: tension acting on fiber *Manabe* 221
non-flow shrinkage ratio: determination in oriented fibers *Prevorsek, Tobolsky* 795
surface characteristics of natural and synthetic fibers: use of Tollen's reagent in microscopical study *Goodwin*—**L** . . . 864

Finishing, see **Cotton, chemically treated, Crease resistance and creaseproofing, Proofing, Water resistance and waterproofing, Wool, chemically treated**

Flax, see **Bast fibers**
Friction
cotton fiber: friction/load and velocity *Merkel*—**L** 84
Fungicides
copper-containing: effect on the actinic degradation of cotton fabric *Bayley, Rose, Clifford, Cooney* 849
soil burial: deterioration of treated fabrics *Kempton, Maisel, Kaplan* 87

Gamma Radiation, see **Irradiation**
Grafting, see **Cotton, chemically treated, Wool, chemically treated**

Heat Phenomena
differential thermal analysis of natural and modified wool and mohair *Felix, McDowall, Eyring* 465
high-temperature steaming of cotton, linen, rayon, cellulose secondary acetate: changes in light absorption, weight, strength, copper number, thermodynamic parameters *Ester, Gerber, Edgar* 357
non-flow shrinkage ratio in oriented fibers *Prevorsek, Tobolsky* 795
thermal stress behavior of radiation-induced graft polymers of cotton *Arthur, Markezich, McSherry* 896
Human Hair, see **Keratin**
Humidity, see **Moisture phenomena**

Instrumentation, see **Testing apparatus**
Irradiation
gamma: grafting vinyl monomers to fibers: vapor-phase technique *Armstrong, Rutherford* 264
gamma: post-irradiation reactions in cotton *Blouin, Arthur* . . 727

Jute, see **Bast fibers**

Keratin (see also **Wool fibers**)
human hair: changes of curvature with regain of set fibers *Baird*—**L** 866
human hair: set/mechanical properties *Rebenfeld, Dansizer* . . 458

human hair: specific breaking energy: corrected values *Smith* 168
human hair, kid mohair, wool: forces and kinetics of supercontraction in 9 *M* LiCl *Rebenfeld, Weigmann, Dansizer* . . 779
rabbit fur, carroted: infrared studies *Fröhlich, Rau*—**L** . . . 865
Knit Fabrics
wool garments (washable): engineering structure of fabric to meet specific requirements *Gan*—**L** 961

Laundering
wet soiling of cotton: effect of finishes *Berch, Peper* 137
wet soiling of resin- treated cottons: *Nuessle, Nageley, Heiges* 146
Lightfastness
dyes: review *Giles, McKay* 527
Loft, see **Cotton, chemically treated, Fabric geometry**
Luster
effect of cotton fiber structure *Holboke, Berriman* 205

Man-Made Fibers
acrylic: coagulation variables/structure and physical properties *Knudsen* 13
experimental fibers: pore structure/wet spinning, freeze-drying, hot drawing *Quynn* 21
melt spinning: tension acting on fiber estimated *Manabe* . . 221
nylon (spun) yarns: specific volume/count/twist *Hearle, Merchant* 417
nylon 66 fibers, oriented: creep at low loads and anhydrous conditions *Howard, Williams* 689
nylon 66 filaments (unoriented): extension/phenomenological relationships *Williams, Bender* 1023
polyacrylonitrile: cationic dyeing equilibria *Rosenbaum* . . . 899
polyester: determination of isophthalic acid in presence of terephthalic acid *Clarke, Rashbrook* 167
radiation-induced grafting of vinyl monomers to fibers: vapor-phase technique *Armstrong, Rutherford* 264
solution spinning from a mixed polymer system: multivariable study *Morbey, Whitwell* 673
Mercerization, see **Cotton yarn**
Microbiological Degradation
cellulosic fibers: physical and chemical properties/anaerobic deterioration by pure cultures of bacteria *Ghose, King* . . 392
***Diplodia*-damaged cotton:** effects on fabric *Fiori, Groves, Sloan, Marsh* 371
fungicide-treated fabrics: soil burial *Kempton, Maisel, Kaplan* 87
jute and cotton canvases compared *Bhattacharyya, Basu*—**L** 868
Microscopy
cortical differentiation in Merino wool: methods of studying *Snyman* 217
dye-staining of micro-organisms: review *McKay* 381
direct replication of fiber surfaces *Sanders*—**L** 399
Methylene Blue staining of wool fiber sections: fading effect *Davies*—**L** 400
structure of chemically modified cotton observed by light and electron microscopy/properties *Rollins, Moore, Tripp* . . 117
surface characteristics of natural and synthetic fibers: use of Tollen's reagent *Goodwin*—**L** 864
swelling of wool fibers *Bradbury, Chapman*—**L** 666
wool cuticle fractions obtained by ultrasonics: light and electron microscopy observations *Bradbury, Rogers, Filshie* . . . 251
wool fiber cross sections: estimation of area of paracortex using Methylene Blue staining: fading and clarity of differentiation *Davies*—**L** 1028
wool fibers after chemical treatment: light microscopy *Bradbury, Rogers, Filshie* 617
wool fibers with polyglycine deposits studied by electron and light microscopy *Bradbury, Rogers* 452
Moisture Phenomena
cotton fiber bundles and yarns, dry and wet: tensile properties *Pillay* 333
cotton: crease recovery/RH *Marsh*—**L** 80
—— reply *Gill, Steele*—**L** 81
cotton fabric: crease recovery/RH *Mack, Wade*—**L** 958
—— further comments *Marsh*—**L** 959
cotton fabric: water retention during centrifuging *Loeb* . . . 521
cotton processing/equilibrium moisture and density *Andrews, Honold, Grant* 609
preconditioning of various fibers before testing: effects *Millard*—**L** 322
——reply *Scroggie, Cooper*—**L** 323
textile systems: moisture transfer *Hardy*—**L** 754
—— *Woodcock*— **L** 755
wool fabrics: dimensional stability/hygral expansion *Baird* . . 973
wool fabrics: rate of regain change/RH *David*—**L** 83
wool fibers, cystine-modified: sorption behavior *Watt* 631
wool fibers, modified: longitudinal swelling *Haly, Snaith*—**L** 872
Mothproofing
content of agent/durability to washing and dry cleaning *Kuwana, Nakamura, Sugiyama* 489
damage caused in mothproofed woolen fabrics by two species of clothes moth *Kuwana, Nakamura* 745
feeding damage to wool, silk, chemical fibers by two species of clothes moth *Kuwana, Nakamura* 649

Nonwoven Fabrics
anisotropy *Hearle, Stevenson* 877
bonding strength/variation of fabric strength with jaw span *Michie* 403
laboratory-made fabrics bonded with natural rubber: properties *Michie, Peters, Taylor* 325
structural geometry/physical properties: orthotropic behavior *Petterson, Backer* 809
Nylon, see **Man-made fibers**

Photochemical Effects (see also **Lightfastness**)
cotton cellulose degradation *Gingras, Cooney, Jackson, Bayley* 1000
cotton fabric treated with copper-containing fungicides: actinic degradation *Bayley, Rose, Clifford, Cooney* 849
wool fabric: color change measurement by comparative reflectance *Launer* 351
wool fabric: Germicidal uv exposure: post-irradiation loss of color in dark *Launer* 910
wool fabric: yellowing/changes in amino acid composition, particularly cystine *Maclaren* 773
wool fabric: yellowing and greening/Germicidal uv *Launer* . . 258
wool fabric, yellowing: amino acid composition changes due to uv and visible light *Inglis, Lennox* 431
wool fabric: yellowing by sunlight/buffer pretreatment *Milligan, Tucker*—**L** 487
Polyacrylonitrile, see **Man-made fibers**
Polyester, see **Man-made fibers**
Proofing
rot resistance by bonding phenols to cotton with zirconium acetate *Gonzales, Welch, Guthrie* 600

Radiation, see **Irradiation, Photochemical effects**
Rayon
continuous filament yarn: twist *Iyer* 68
continuous filament yarn: twist *Barella*—**L** 579
cross-linking with volatile epoxides: temperature time, alkali concentration *Francis, Staples* 583
radiation-induced grafting of vinyl monomers to fibers: vapor-phase technique *Armstrong, Rutherford* 264
steaming temperature/change in brightness, weight, strength, copper number, thermodynamic parameters *Ester, Gerber, Edgar* 357
treated with ethylenimine in presence of acetic acid *Segal, Eggerton* 739

Sewing
needle temperature measured by infrared pyrometry *Laughlin* 35
Shrinkproofing (see also **Wool, chemically treated**)
wool: cupric ammonium sulfite solutions *McPhee*—**L** 578
wool: electron and light microscopy of fibers after chemical treatment *Bradbury, Rogers, Filshie* 617
wool: electron and light microscopy of polyglycine on the fibers *Bradbury, Rogers* 452
wool: fiber modification in neutral potassium permanganate–salt treatments *Andrews, Inglis, Rothery, Williams* 705
wool: grafting of poly(1,1-dihydroperfluoroalkyl acrylates) on wool *Pittman* 817
wool: induction period in fabrics *Denby, Andrews* 959
wool: interfacial polymerization of copolymers *Whitfield, Miller, Wasley*—**L** 752
wool: interfacial polymerization: relative rates of hydrolysis of acid chlorides *Wasley, Whitfield, Miller, Kodani*—**L** 1029
wool: interfacial polymerization with polyureas, polyesters, polycarbonates, and polyamides *Whitfield, Miller, Wasley* 440
wool, permanganate-treated: felting shrinkage *Williams* . . . 444
wool: peracetic acid followed by sodium sulfite *McPhee*—**L** . . 755
wool: scale masking and spot welding of fibers by polymer deposits identified by light microscopy *Bradbury* 824
Sisal and Manila Fibers
binary mixture: quantitative estimation by staining technique *Dave, Mehta*—**L** 320
Soiling, see **Laundering**
Spinning, see **Textile processing**
Steaming
temperature of/change in cotton, linen, rayon, and cellulose secondary acetate *Ester, Gerber, Edgar* 357
Stretch Fabrics
slack mercerization: effects of cross-linking *Kullman, Fenner, Frick, Reinhardt, Reid* 199
slack mercerization: effects of yarn and fabric construction *Sloan, Murphy, Hoffman, Moore, Cooper* 191

Temperature effects, see **Heat phenomena**
Testing Apparatus and Procedures (see also **Yarn testing**)
abrasion: correlation of laboratory testers *Weiner, Pope*—**L** . . 761
alkali centrifuge test for fiber changes from heating, cleaning, and mechanical processing effects on cotton *Honold, Andrews, Grant* 51
bias extension test *Cooper*—**L** 315
blend testing: sisal and Manila mixture estimation by staining technique *Dave, Mehta*—**L** 320
card web transparency and its unevenness: measurement *Barella, Pujal, Viaplana* 411
cellulose swelling measured by propanol-2 retention *Andrews, Oberg* 330
color change of wool fabrics measured by comparative reflectance *Launer* 351
cotton fabric thickness as possible measure for quality control of wash–wear treatment *Hebert, Weiss, Orr, Grant* 510
denier distribution of textile fibers with Coulter Counter *Bloch, Gusack* 224
drafting force (dynamic) measurement/testing conditions *Simpson, DeLuca* 62
filament length and fineness in jute sliver assessed by dye-sampling *Bandyopadhyay*—**L** 163

fineness of Indian cottons: suitability of the Micronaire instrument *Prakash, Iyengar*—L 245
lightfastness standards: review *Giles, McKay* 527
Micronaire test: correlations *Chytiris*—L 81
needle temperature measured by infrared pyrometry *Laughlin* 35
nonwovens: method of assessing relative importance of fiber strength and bonding strength *Michie* 403
preconditioning: effects on various fibers *Millard*—L 322
—— reply *Scroggie, Cooper*—L 323
soil burial of fungicide-treated fabrics: kinetics of fungicide loss *Kempton, Maisel, Kaplan* 87
thermal conductivity of blankets: apparatus for measurement *Rowlands* 343
thermal transmission of fabrics *David*—L 322
thickness of blankets and soft textile materials *Rowlands*—L 242
volume of yarn packages: immersion technique for measuring *Denton*—L 80
wool felting: Dylan cube washing apparatus. *Gan*—L 873
—— comment *Zahn, Blankenburg*—L 875
—— reply *Gan*—L 876
wool fineness distribution data: graphical solution *O'Connell*—L 758

Textile Processing
automated cleaning *Hocutt* 1049
automatic doffing of filling spinning frames *Huff* 1046
automation, bale to cone *Jones* 1036
automation: cost and quality *Roberts* 1041
automation: symposium, introduction *Newell* 1035
card web transparency and its unevenness: measurement *Barella, Puzal, Viaplana* 411
cotton: drafting force measurement (dynamic): drag/drafting tenacity at different roll settings *Simpson, DeLuca* 62
cotton: fiber configuration in feed/comber waste *Merchant*—L 239
—— reply *Bhaduri, Wakankar*—L 240
cotton: heating, cleaning, mechanical processing effects measured by centrifuge test *Honold, Andrews, Grant* 51
cotton: heating, cleaning, mechanical processing: equilibrium moisture and density *Andrews, Honold, Grant* 609
cotton: heating, cleaning, mechanical processing effects: fiber properties and spinning behavior *Grant, Kingsbery, Tsoi, Griffin* 839
cotton drafting: spindle speed/properties of cotton yarns *Audivert, Vidiella*—L 319
cotton rovings and yarn: twist/yarn cohesion *Barella, Sust* 75
cotton yarn irregularity: *B–L* curve *Balasubramanian* . . . 697

Thermal Effects, see **Heat phenomena**

Tire Cords
cord–rubber laminates: plane elastic characteristics *Clark* 295
cord-rubber laminates (orthotropic): internal characteristics *Clark* 935

Wash-and-Wear, see **Crease resistance and creaseproofing**
Washing, see **Laundering**
Water Resistance and Waterproofing
silicones chemically bound to cotton fabrics: durability *Gülkey* 129
wool treated with 1(perfluoroacyl) aziridines: water repellency, oil repellency, shrinkage *Pittman*—L 953

Wear
abrasion: correlation of laboratory testers *Weiner, Pope*—L . . 761
abrasion resistance of weathered fabrics *Weiner, Pope, Johnston*—L 665
New Mexico wools: yarn count, thickness, capacitance, weight *Lee, Finkner* 855
wool fabric: soil/resistance to abrasion *Morris, Mitchell, Aas-Wang* 424

Weathering
abrasion resistance of weathered fabrics *Weiner, Pope, Johnston*—L 665
jute and cotton canvases compared *Bhattacharyya, Basu*—L 868

Wool (see also **Wool, chemically treated, Wool fabric, Wool fibers**)
felting test: Dylan cube washing apparatus *Gan*—L 873
—— comment *Zahn, Blankenburg*—L 875
fineness distribution data: graphical solution *O'Connell*—L 758
Indian carpet wools: rheological properties *Bhogale, Whiteley*—L 161
New Mexico wool: wearing qualities: yarn count, thickness, capacitance, weight *Lee, Finkner* 855

Wool, Chemically Treated
cystine-modified wool: sorption behavior *Watt* 631
differential thermal analysis of modified wool and mohair *Felix, McDowall, Eyring* 465
electron and light microscopy after chemical treatments *Bradbury, Rogers, Filshie* 617
grafting of poly(1,1-dihydroperfluoroalkyl acrylates) on wool *Pittman* 817
interfacial polymerization of copolymers *Whitfield, Miller, Wasley*—L 752
interfacial polymerization: polyureas, polyesters, polycarbonates, polyamides/properties *Whitfield, Miller, Wasley* . . . 440
interfacial polymerization: relative rates of hydrolysis of acid chlorides *Wasley, Whitfield, Miller, Kodani*—L 1029
modified fibers: supercontraction in 9 *M* LiCl at 94°/sulfhydryl and disulfide groups *Weigmann, Rebenfeld* 985
1-(perfluoroacyl)aziridines: oil repellency, water repellency, shrinkage *Pittman*—L 953
permanently set and cystine reduced fibers at various RH: mechanical properties *Feughelman* 1013
permanganate treatment: felting shrinkage *Williams* 444
polyglycine deposits studied by electron and light microscopy *Bradbury, Rogers* 452
potassium permanganate salt treatments: fiber modification *Andrews, Inglis, Rothery, Williams* 705
shrinkproofed fabrics: induction period *Denby, Andrews* . . 959
sodium thiosulfate treatments/lanthionine formation *Vassiliades* 376

Wool Fabric (see also **Mothproofing, Shrinkproofing, Wool, chemically treated**)
dimensional stability/hygral expansion *Baird* 973
modification of fibers in neutral potassium permanganate–salt treatments *Andrews, Inglis, Rothery, Williams* 705
moth damage *Kuwana, Nakamura* 649, 749
mothproofing agent content/durability of moth resistance to washing and dry cleaning *Kuwana, Nakamura, Sugiyama* . . 489
regain rate change/RH *David*—L 83
shrinkproofed: induction period *Denby, Andrews* 959
shrinkproofing with cupric ammonium sulfite solutions *McPhee*—L 578
shrinkproofing with peracetic acid followed by sodium sulfite *McPhee*—L 755
soil/resistance to abrasion *Morris, Mitchell, Aas-Wang* . . . 424
stabilization by interfacial polymerication: copolymers *Whitfield, Miller, Wasley*—L 752
washable knitted garments: engineering structure to fit requirements *Gan*—L 961
yellowing/amino acid composition *Maclaren* 773
yellowing: amino acid composition changes due to irradiation with uv and visible light *Inglis, Lennox* 431
yellowing: buffer preireatment/sunlight yellowing *Milligan, Tucker*—L 487
yellowing: comparative reflectance as measure of color change *Launer* 351
yellowing: post-irradiation (uv) loss of color in dark *Launer* . . 910
yellowing and greening by ultraviolet *Launer* 258

Wool Fibers
bilateral structure/crimp *Snyman* 803
cortical differentiation: methods of studying *Snyman* 217
creep: molecular mechanical constants in the yield region *Balasubramaniam, Whiteley* 436
curvature changes/regain of set fibers *Baird*—L 866
cuticle fractions obtained by ultrasonics: observations by light and electron microscopy *Bradbury, Rogers, Filshie* 251
differential thermal analysis of natural and modified wool and mohair *Felix, McDowall, Eyring* 465
electron and light microscopy after chemical treatments *Bradbury, Rogers, Filshie* 617
estimation of paracortex area in cross sections using Methylene Blue staining: fading, clarity of differentiation *Davies*—L 1028
high-sulfur proteins from oxidized wool: physicochemical study *Haylett, Joubert, Swart, Louw* 639
longitudinal swelling of modified fibers *Haly, Snaith*—L . . 872
scale masking and spot welding of fibers by polymer deposits identified by light microscopy *Bradbury* 824
set/mechanical properties *Rebenfeld, Danziger* 458
set fibers: shrinkage/swelling *Lindberg, Fløisand*—L 660
sorption behavior of cystine-modified wool *Watt* 631
stress–strain data for Indian carpet wools *Bhogale, Whiteley*—L 161
structure: mechanical properties of permanently set and cystine reduced fibers at various RH *Feughelman* 1013
supercontracted: alkaline media/configuration of disulfide linkages *Swanepoel*—L 313
supercontraction: recovery from in reduced and alkylated fibers *Haly, Snaith* 669
supercontraction forces and kinetics: keratin fibers in 9 *M* LiCl *Rebenfeld, Weigmann, Danziger* 779
supercontraction of ortho- and paracortex: relative disulfide contents *Haly* 233
supercontraction in 9 *M* LiCl at 94° C of chemically modified fibers/sulfhydryl and disulfide groups *Weigmann, Rebenfeld* 985
swelling investigated by light microscopy *Bradbury, Chapman*—L 666

Wrinkle Resistance, see **Crease resistance and creaseproofing**

X-Ray Diffraction
cellulose chain conformation *Norman* 711
cotton: effect of sample weight and other variables, normalizing procedure *Nelson, Schultz* 515

Yarn Geometry
cotton: twist/yarn cohesion *Barella, Sust* 75
jute: twist factor/size and fiber qualities; tex-tenacity/twist factor *Bandyopadhyay* 9
nylon (spun) yarns: specific volume/count/twist *Hearle, Merchant* 417
rayon, continuous filament yarns: twist *Barella*—L 579
rayon: twist/yarn retraction *Iyer* 68

Yarn Testing
hairness of yarn: method of determining *Jedryka* 663
high-speed loading: stress-strain relationships/rifle bullet impacts *Smith, Fenstermaker, Shouse* 919

BOOK REVIEWS

Advances in Carbohydrate Chemistry, Vol. 16. M. L. Wolfrom, editor (1961) 582
The Beginning of Rayon. Edwin J. Beer (1962) 668
Forschungsberichte des Landes Nordrhein-Westfalen, Nos. 1036, 1084, 1106, 1115, 1120, 1132, 1156, 1157, 1167 (1961 and 1962) 668
High Polymers. Vol. XII: Analytical Chemistry of Polymers, Parts II and III. Gordon M. Kline, editor (1962) 581
Impact Phenomena in Textiles. W. J. Lyons (1963) 1032
Materials Handling in Textile Mills. B. B. Joshi (1962) . 668
Nonwoven Fabrics. Francis M. Buresh (1962) 668
Physical Properties of Textile Fibers. W. E. Morton and J. W. S. Hearle (1962) 580
Progress in High Polymers, Vol. I. J. C. Robb and F. W. Peaker, editors (1961) 582
Recent Progress in the Chemistry of Natural and Synthetic Colouring Matters and Related Fields. T. S. Gore, B. S. Joshi, S. V. Sunthankar, and B. D. Tilak, editors (1962) 580
Review of Textile Progress, Vols. 12 and 13. Textile Institute and Society of Dyers & Colourists (1962) 668
The Simple Fleece; Studies in the Australian Wool Industry. Alan Barnard, editor (1962) 1033
Ultrastructure of Protein Fibers. Rubin Borasky, editor (1963) 1033
Wellington Sears Handbook of Industrial Textiles. Ernest R. Kaswell (1963) 1034
Wool Handbook, Vol. 1. Werner von Bergen (1963) 1034

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